

REMARKS

Claims 1-70 and 72-108 are currently pending including independent claims 1, 12, 32, 50, 58, 69, 86, and 99. Of the independent claims, claim 69 is allowed. The Examiner rejected claims 1, 12, 32, 50, 58, 86, and 99 under 35 U.S.C. §103(a) as being obvious over Urale in view of Atarius. In response, Applicant has amended claims 1, 12, 32, 50, 58, 86, and 99 without adding new matter, and traverses the rejections.

The claimed invention is directed to an apparatus and method of processing a spread spectrum signal. Claim 1, for example, recites processing a plurality of time-offset correlations using a first demodulation technique to generate a first symbol representation for a symbol. Based on the quality of the first symbol representation, the claimed invention determines whether to continue processing the first symbol representation, or whether to process a second symbol representation generated for the symbol using a second demodulation technique different from the first demodulation technique. Note that the claimed invention generates the first and second symbol representations for the same received symbol using two different demodulation techniques. Thus, the claimed invention uses demodulation diversity by selecting an optimal demodulation algorithm for a given symbol received at a given time instant. Each of claims 1, 12, 32, 50, 58, 86, and 99 have been amended to include language that makes this aspect clear.

Neither reference teaches or suggests, alone or in combination, generating first and second symbol representations for the same received symbol using two different demodulation techniques. Urale, the primary reference, discloses a diversity receiver having a demodulator that demodulates received data in a plurality of sub-channels. Urale then processes the demodulated output of each sub-channel to estimate errors in the demodulated data. Based on these error estimates, a data selector selects the demodulated output from a sub-channel for continued processing.

Urabe does not teach or suggest employing different demodulation techniques, but rather demodulates data on each sub-channel using a single demodulator that employs a single demodulation technique. This is because Urabe is fundamentally concerned with maintaining the same level of error detection reliability. The Urabe method is based on the understanding that signal path characteristics change and as a result, some channels will be better than others. Thus, Urabe continually attempts to select the optimal channel to maintain the same level of error detection reliability. This “channel diversity” of Urabe does not teach or suggest the “demodulation diversity” achieved by demodulating the same symbol using two different demodulation techniques.

The Atarius reference also fails to teach or suggest generating first and second symbol representations for the same received symbol using two different demodulation processes, respectively. Moreover, the Examiner does not assert that it does. Atarius simply discloses a multi-stage method for configuring the fingers of a RAKE receiver. This says nothing about demodulation diversity as recited in the claims.

Neither Urabe nor Atarius teaches or suggests generating a first symbol representation for a received symbol and, based on the determined quality of the first symbol representation, determining whether to continue processing the first symbol representation, or whether to process a second symbol representation that was generated for the received symbol using a different demodulation technique. As such, they cannot be combined to teach or suggest every claimed limitation. Accordingly, the §103 rejections of claims 1, 12, 32, 50, 58, 86, and 99, must be withdrawn. Claims 1, 12, 32, 50, 58, 86, and 99, and their respective dependent claims are patentably non-obvious over the cited references.

Applicant notes that portions of the specification have been amended such that those applications referenced by application serial number are now referenced by their respective issued U.S. Patent numbers. No new matter has been added. In addition, Applicant submits an

IDS concurrently with this response to address the Examiner's concerns detailed in the Office Action.

In light of the amendments and the foregoing remarks, Applicant respectfully requests allowance of all pending claims.

Respectfully submitted,
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